

Floodplain Impacts

Definitions:

Encroachment: Any highway improvement within the limits of the regulatory floodplain.

Significant: That which creates or increases a hazard to people and/or property and/or environment.

Major Drainage Structures: Bridges or culverts with waterway openings greater than 100 square feet.

Studies for all projects which are to qualify for federal-aid or require federal action must include an evaluation of all encroachments into regulatory floodplains. The evaluation will provide guidance on the appropriate assessment and documentation for different categories of work. These guidelines are expected to facilitate the receipt of FHWA advanced studies approvals on a project-by-project basis. The FHWA may require additional information on individual projects prior to granting design approval.

Assessment of floodplain encroachment will be incorporated into the development and analysis of corridor and design alternatives. Evaluations may range from certifying statements as suggested in Categories 1 and 2 to a detailed analysis as suggested in Category 5. Different levels of analysis have been established for different categories of projects depending upon their size, scope, and impact upon the floodplain.

It is possible that a single project will involve two or more of the categories listed below. When this occurs it is necessary to include information for each of the categories that may be involved. Each major drainage structure on the proposed project must be discussed and a determination made as to the significance of any encroachments. If a given situation does not fit a particular category, these guidelines should be used as a basis for developing a reasonable approach to fit that situation.

Category 1: Projects which will not involve any work below the 100 year flood elevation.

If the project is of the type that will not involve any work below the 100 year flood elevation (i.e. resurfacing, widening, bridge deck repairs, etc.) and the 100 year flood elevation is available from existing information, the following paragraph will be included in the environmental document:

"Although this project involves work within the horizontal limits of the 100 year floodplain, no work is being performed below the 100 year flood elevation and as a result this project does not encroach upon the base floodplain."

Category 2: Projects which will not involve the replacement or modification of any drainage structures.

Projects in this category must remain on essentially the same alignment. If a profile grade elevation change is proposed, an inspection of the floodplain is required to determine if the change will significantly increase floodplain damage or risks.

It is assumed that there are no known drainage problems within the limits of the project or that other factors were considered to override the need for concurrent drainage improvements. The following information will be included in the environmental report:

"This project will not involve the replacement or modification of any existing drainage structures or the addition of any new drainage structures. As a result, this project will not affect flood heights or floodplain limits. This project will not increase flood risks or damage. Likewise, it will not adversely affect existing emergency service or emergency routes. Therefore, it has been determined that this encroachment is not significant."

Category 3: Projects involving modifications to existing drainage structures.

Projects within this category will not involve the replacement of any existing drainage structures nor the construction of any new drainage structures. It is intended to apply only to those projects which modify existing structures. Some projects involving modifications of existing drainage structures affect flood heights and flood limits, and therefore some analysis may be necessary to support statements concerning the insignificance of such modifications. The document should determine changes in capacity of the structures. An inspection of the floodplain will determine if any expected increase in flood heights could result in significant damage not expected under current conditions.

A discussion similar to that which follows, will be included in the environmental report:

"The modifications to drainage structures included in this project will result in an insignificant change in their capacity to carry flood water. This change could cause a minimal increase in flood heights and flood limits. These minimal increases will not result in any significant adverse impacts on the natural and beneficial floodplain values; they will not result in any significant change in flood risks or damage; and they do not have significant potential for interruption or termination of emergency service or emergency routes; therefore, it has been determined that this encroachment is not significant."

Category 4: Projects involving replacement of existing drainage structures on essentially the same alignment.

The site will be inspected upstream and downstream to determine existing conditions that affect the design of the replacement structure. A "Risk Assessment" will be made and coordination with the Indiana Department of Natural Resources will take place. For CE's, The Risk Assessment form is to be submitted to the Environmental Assessment Section and maintained in the project file. It is not to be included in the CE. If no significant impacts are predicted, then a summary of the risk assessment and the following comment will be included in the environmental report:

"(Number) homes are located within the base floodplain within 1000 feet upstream, and (number) homes are located within the base floodplain within 1000 feet downstream. The proposed structure will have an effective capacity such that backwater surface elevations are not expected to significantly increase. As a result, there will be no significant adverse impacts on natural and beneficial floodplain values; no significant change in flood risks; and no significant increase in potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant. A hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase. A summary of this study will be included with the Field Check Plans and also in the Design Summary."

If significant impacts are determined, the following will be included in the environmental report:

"Significant impacts to the floodplain have been predicted, therefore, a hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase. A summary of this study will be included with the Field Check Plans and also in the Design Summary."

Category 5: Projects on new alignment.

For projects in this Category a Risk Assessment will be made to determine the potential flood risk at the project site, and coordination with the Indiana Department of Natural Resources will take place as set out by Indiana State Law. If the evaluation finds no significant encroachment to the floodplain a summary based on the risk assessment and a comment similar to the following will be included in the environmental report.

"There will be no significant impacts on natural and beneficial floodplain values; no significant change in flood risks; and no significant increase in potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant. A hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase. A summary of this will be included with the Field Check Plans and also in the Design Summary."

If significant impacts are determined, a comment similar to the following will be included in the environmental report:

"Significant impacts to the floodplain have been predicted. Therefore, a hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase. A summary of this study will be included in with the Field Check Plans and also in the Design Summary."

A copy of the Risk Assessment should be kept on file for CE projects and be attached to the appendix of an EA or EIS.

For projects not located within the floodplain the following statement should be made in the environmental report:

"This project does not encroach upon the regulatory floodplain of the HUD Special Flood Hazard Area. Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771 and 44 CFR.